

## ABSTRACT

The invention provides repeated sequential stages of chemical and biological treatment to meet soil and/or groundwater treatment goals. Chemical treatment is undertaken to directly destroy a portion of the contaminants via oxidation, with  
5 such chemical treatment occurring in discrete injection events. Near the completion of an injection event, the remedial additive concentrations or delivery rates are increased. During or subsequent to the chemical treatment event, beneficial nutrients and additional microbial populations are added to the soil and or groundwater based upon field or laboratory testing and calculated optimal  
10 concentrations.